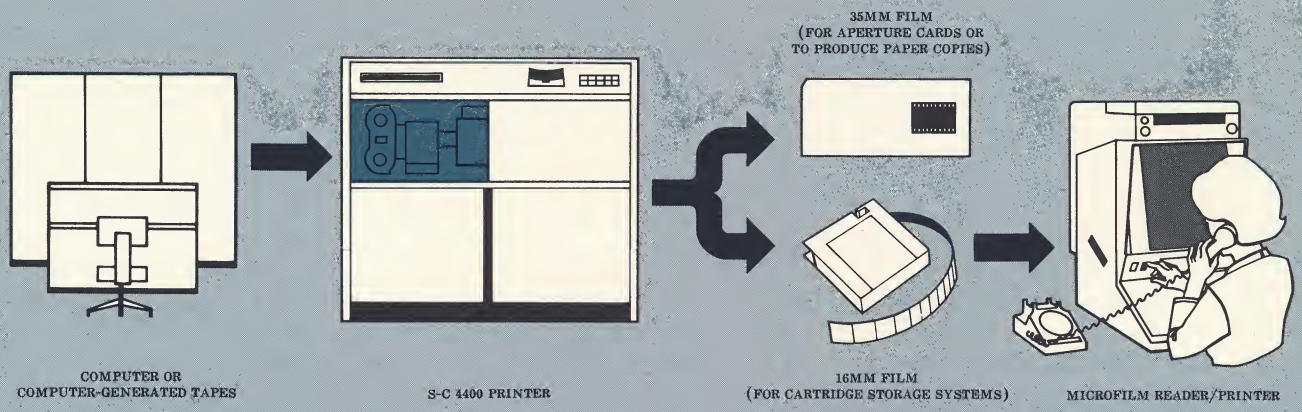
S-C 4400 COMPUTER MICROFILM PRINTER

STROMBERG-CARLSON

S-C 4400 COMPUTER PRINTER



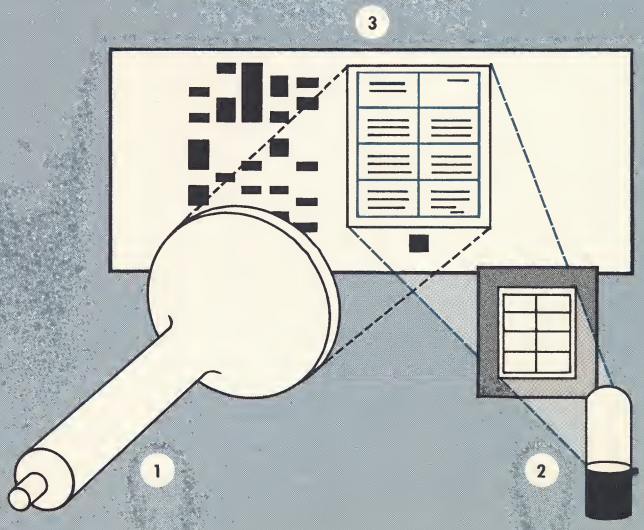
ELIMINATES COSTLY STEPS

The S-C 4400 simplifies data processing by taking information from a computer or computer generated tapes and recording it directly on 16mm film for cartridge storage systems or 35mm film for aperture cards. The high speed recorder eliminates costly steps in the process of converting computer data into microfilm. 1. When operating on-line with the computer, there is no need to produce magnetic tape. 2. The need for paper copies is eliminated although selected pages can be produced on paper from the microfilm if needed. 3. The tasks of manually handling paper and magnetic tapes are also eliminated. 4. In addition the job of microfilming and coding the output is performed automatically by the S-C 4400.

APPLICATIONS

Insurance companies, banks, utilities or other organizations which must store a large volume of computer-generated data can retrieve the information almost instantly when an S-C 4400 records the data directly on microfilm. The film can then be stored in microfilm cartridges or aperture cards. Modern microfilm storage and retrieval systems permit finding one film out of a million in 15 seconds. The system permits answering customer or staff questions concerning business records almost instantaneously. Typical applications are customer histories; account, payroll and personnel records; route and rate information; credit figures; stock transfers; transaction journal; inventory control; configuration management control, etc.

The S-C 4400 displays computer-generated data on the face of a special cathode ray tube(1). Besides characters and symbols the tube displays visual codes required by semi-automatic and automatic storage and retrieval systems. To save computer time, a special projector(2) uses slides to overprint the copy with desired business forms (lines shown in blue). The complete image including characters, codes and forms(3) is recorded automatically by a microfilm camera.



The S-C 4400 is a high speed electronic printer which records alphanumeric output directly from a computer or computer-generated tapes onto 16mm microfilm for use in automated and semi-automated storage and retrieval systems. An option permits production of 35mm microfilm for aperture card filing systems. Either 16 or 35mm film can be used as an intermediate step to the production of paper output.

HIGH SPEED

Operating at printing speeds of 62,500 characters per second, the S-C 4400 electronically translates digital computer codes into ordinary language and records it on film at a rate of 50,000 pages per shift. A full page contains 64 lines of 132 characters each. Visual indexing codes compatible with most semi-automatic and automatic storage and retrieval systems are imprinted on the film automatically by the printer. A forms slide projector is available to superimpose the image of business forms over the film frames under computer program control.

In operation the S-C 4400 reads computer codes and displays the information on the face of a special cathode ray tube where it is automatically photographed by a microfilm camera. All letters and figures are high quality since they are formed by a CHARACTRON® Shaped Beam Tube. This tube forms letters by extruding a beam of electrons through characters etched into a tiny metal matrix inside the tube. Therefore, high quality is achieved since the characters are literally cut from the beam of electrons.

ECONOMICS—Where a large volume of computer-generated data must be handled, the S-C 4400 easily justifies its cost by replacing several steps in the computer-to-retrieval of data cycle. It also reduces manual operations and speeds the entire system. In addition, storage problems are reduced. A file drawer of film replaces an entire storeroom full of paper and is much less bulky than magnetic tape. Duplicate copies can be made economically for separate secure storage.

LEASE OR OUTRIGHT SALE—The S-C 4400 may be leased or purchased outright. In either case Stromberg-Carlson, which has years of experience in automatic microfilming, provides customer training and complete service.

TABBING—One of the unique capabilities of the printer is vertical and horizontal tabbing. Vertically the equipment may be programmed to single, double or triple space or it may be set to execute an operator programmed skip to any of nine preset line positions. Horizontally the printer can be set to execute an operator programmed skip to any of nine preset character positions. Horizontal and vertical tabbing can be accomplished forward and backward, an exclusive feature with the S-C 4400.

CODING –Besides automatically recording data on microfilm, the S-C 4400 codes the film for automated and semi-automated storage and retrieval systems. The visual coding is compatible with most systems available today.

TAPE COMPATIBILITY—The standard S-C 4400 accepts 200 and 556 bit-per-inch tape. Compatibility with 800 bit-per-inch tape is available upon request.

FORMS PROJECTOR—A projector is available so that standard business forms can be used as a background to recorded data without requiring extensive computer time to draw the lines of the form. The lines may be varied in intensity to distinguish the new data from the forms background.

CHARACTER SETS—Both scientific and commercial character sets are included. To change from one to the other requires only the moving of a switch.

SPACING VARIATIONS—Normally the S-C 4400 prints the equivalent of 10 characters per inch (at normal page size) and 6 lines per inch, but operator adjustment knobs permit this spacing to be changed to suit a given form.

RECORD EDITING—Selective printing from tapes is another S-C 4400 exclusive. With four switches the programmer can direct the S-C 4400 to print portions of a given tape while ordering the machine to ignore other sections.

ROTATING TUBE MOUNT—The cathode ray tube in the printer can be rotated 90° so that an image can be created with a page length that is longer than the line length.

ELECTRICAL POWER—Because of its minimum power drain the S-C 4400 can be plugged into any 110 volt outlet. Except for the main cathode ray tube, the system uses only silicon semi-conductors for maximum reliability.

PHYSICAL CHARACTERISTICS—The high speed printer is designed for operation in normal room temperatures (60° to 85°F) and does not require ducted cooling air. Except for power and signal connections it is integrally self-contained. It measures 57 inches high, 63 inches long and 22 inches wide. Normally no special flooring is required to support its weight.

TEST GENERATOR—In the case of outright purchase, Stromberg-Carlson will supply a test generator unit which is used to exercise the printer and in locating any problem areas.

STROMBERG-CARLSON

S-C 4400 COMPUTER PRINTER

S-C 4400 CHARACTERISTICS

Operating Speed: Up to 62,500 characters per second. Four full pages of text per second.

Input: Accepts tape in form of seven-bit characters (six-bit character code & redundancy check bit).

Output: 16mm Mirofilm (35mm film optional).

Tape Densities: Up to 800 six-bit characters per second with optional equipment. Standard 200 BPI and 556 BPI. Optional 800 BPI.

Power: 110 volt a-c single phase.

Character Generator: CHARACTRON Shaped Beam Tube.

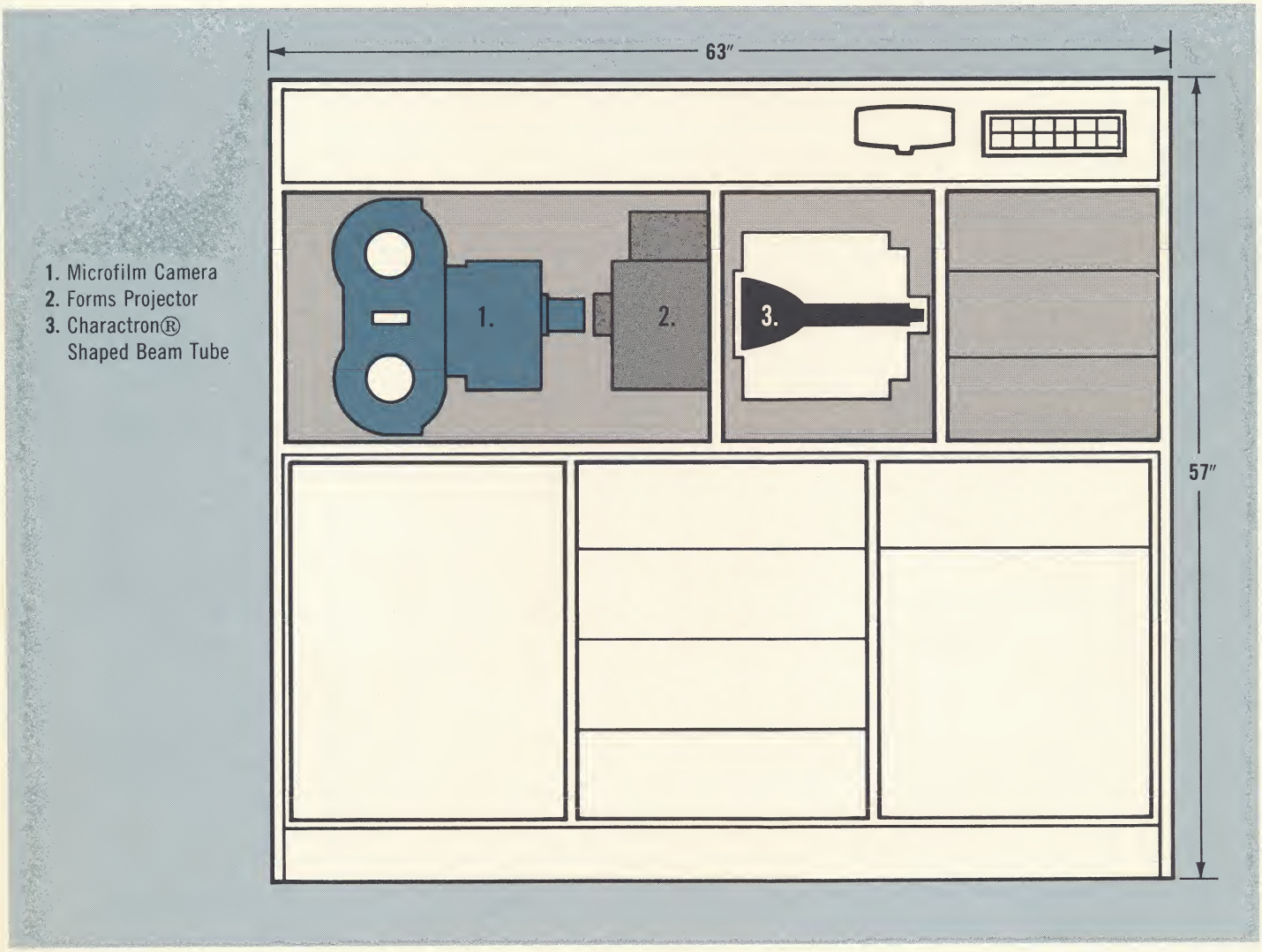
Circuitry: Silicon semi-conductors except for shaped beam tube.

Size: 57 inches high; 63 inches long; 22 inches wide.

Operating Temperature: +60° to +85°F.

Weight: Approximately 700 pounds.

Relative Humidity: 10% to 70%.



STROMBERG-CARLSON
A DIVISION OF GENERAL DYNAMICS
Post Office Box 2449 San Diego, California 92112

PRINTED IN U.S.A.
C-19/7-64/5M

STROMBERG-CARLSON
A DIVISION OF GENERAL DYNAMICS

December 10, 1964

Mr. T. Nelson
Systems Consultant
Box 1546
Poughkeepsie, New York

Dear Mr. Nelson:

Enclosed is the information that you requested on the S-C 4400 Computer Document Recorder.

This new printer is specifically designed for data processing applications and will produce information files in microfilm form at speeds matching the data rates of today's computers. On-line capability up to 62,500 characters per second has been established. Off-line versions will handle tape densities up to 800 characters per inch from tape. Optional editing, formatting and retrieval encoding features allow a multiplicity of operations which once required a "peripheral" computer to perform.

For application at your computer center, you will find the S-C 4400 very desirable in reducing retrieval time and storage space for current transaction registers, inventory control, rate information, customer accounts, and archival requirements. Cost savings are realized from reduced computer time, reduced peripheral printer time, no paper supplies and no paper to film copier is required.

We sincerely appreciate your interest in Stromberg-Carlson and look forward to working with you on your microfilm printing requirements.

Very truly yours,

G. W. McGinley
Manager, Industrial Requirements

Encl.

Post Office Box 2449, San Diego, California 92112
Telephone: San Diego (714) 298-6131